

**APPENDIX B**  
**COMPOUND SPECIFIC INPUT VALUES**

## Benz(a)anthracene

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	3.7E+05	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	4.7E+05	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	3.7E-01	8
K <sub>d<sub>s</sub></sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
K <sub>d<sub>bs</sub></sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
K <sub>d<sub>sw</sub></sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm-m <sup>3</sup> /mol)	2.5E-06	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	5.1E-02	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	9.0E-06	7
VP	Vapor pressure at approximately 25 °C (atm)	1.4E-10	6
S	Solubility (mg/L or g/m <sup>3</sup> )	1.28E-02	6
MW	Molecular weight (g/mol)	228.28	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	2.7E+04	14
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg WW plant)/(μg/ml soil water; bcf-leafy veg (μg /g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	7.0E+02 2.0E-02 2.0E-02	9
Ba <sub>beef</sub>	Biotransfer factor for beef (day/kg)	NA	NA
Ba <sub>milk</sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	11
BAF	Fish bioaccumulation factor (L/kg)	40	
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	
Other Parameters			
F <sub>w</sub>	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	1.1E+00	13
RfD	Reference Dose (mg/kg/day)	NA	NA
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	NA	NA
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA

## Benzo(a)pyrene

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	1.0E+06	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	1.3E+06	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	4.8E-01	8
Kd <sub>s</sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
Kd <sub>bs</sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
Kd <sub>sw</sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm-m <sup>3</sup> /mol)	9.4E-07	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	4.3E-02	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	9.0E-06	7
VP	Vapor pressure at approximately 25 °C (atm)	7.2E-12	6
S	Solubility (mg/L or g/m <sup>3</sup> )	1.94E-03	6
MW	Molecular weight (g/mol)	252.00	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	4.7E+04	14
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg WW plant)/(μg/ml soil water; bcf-leafy veg (μg /g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	1.5E+03 1.1E-02 1.1E-02	9
Ba <sub>beef</sub>	Biotransfer factor for beef (day/kg)	NA	NA
Ba <sub>milk</sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	11
BAF	Fish bioaccumulation factor (L/kg)	1,000	11
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	NA
Other Parameters			
Fw	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	7.3E+00	15
RfD	Reference Dose (mg/kg/day)	NA	NA
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	1.7E-03	16
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA

## Benzo(b)fluoranthene

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	4.9E+5	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	6.2E+5	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	4.2E-1	8
K <sub>d<sub>s</sub></sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
K <sub>d<sub>bs</sub></sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
K <sub>d<sub>sw</sub></sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm·m <sup>3</sup> /mol)	5.1E-8	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	2.3E-2	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	8.0E-6	7
VP	Vapor pressure at approximately 25 °C (atm)	8.8E-13	6
S	Solubility (mg/L or g/m <sup>3</sup> )	4.33E-3	6
MW	Molecular weight (g/mol)	252.00	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	5.7E+5	14
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg/g WW plant)/(μg/ml soil water; bcf-leafy veg (μg/g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	8.7E+2 1.7E-2 1.7E-2	9
B <sub>a<sub>beef</sub></sub>	Biotransfer factor for beef (day/kg)	NA	NA
B <sub>a<sub>milk</sub></sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	11
BAF	Fish bioaccumulation factor (L/kg)	1,000	11
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	NA
Other Parameters			
F <sub>w</sub>	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	1.2E+00	13
RfD	Reference Dose (mg/kg/day)	NA	NA
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	NA	NA
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA

## Benzo(k)fluoranthene

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	1.0E+06	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	1.3E+06	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	1.2E-01	8
K <sub>d<sub>s</sub></sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
K <sub>d<sub>bs</sub></sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
K <sub>d<sub>sw</sub></sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm·m <sup>3</sup> /mol)	2.8E-05	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	2.3E-02	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	8.0E-06	7
VP	Vapor pressure at approximately 25 °C (atm)	1.1E-10	6
S	Solubility (mg/L or g/m <sup>3</sup> )	9.4E-04	6
MW	Molecular weight (g/mol)	252.00	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	1.6E+04	13
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg WW plant)/(μg/ml soil water; bcf-leafy veg (μg /g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	1.6E+03 1.1E-02 1.1E-02	9
B <sub>a<sub>beef</sub></sub>	Biotransfer factor for beef (day/kg)	NA	NA
B <sub>a<sub>milk</sub></sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	11
BAF	Fish bioaccumulation factor (L/kg)	1,000	11
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	NA
Other Parameters			
F <sub>w</sub>	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	1.5E-01	13
RfD	Reference Dose (mg/kg/day)	NA	19
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	NA	NA
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA

## Chrysene

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	4.6E+05	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	5.8E+05	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	2.6E-01	8
K <sub>d<sub>s</sub></sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
K <sub>d<sub>bs</sub></sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
K <sub>d<sub>sw</sub></sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm·m <sup>3</sup> /mol)	9.7E-07	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	2.5E-02	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	8.0E-06	7
VP	Vapor pressure at approximately 25 °C (atm)	8.2E-12	6
S	Solubility (mg/L or g/m <sup>3</sup> )	1.94E-03	6
MW	Molecular weight (g/mol)	228.30	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	2.5E+04	14
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg/g WW plant)/(μg/ml soil water; bcf-leafy veg (μg/g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	8.2E+02 1.8E-02 1.8E-02	9
B <sub>a<sub>beef</sub></sub>	Biotransfer factor for beef (day/kg)	NA	NA
B <sub>a<sub>milk</sub></sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	NA
BAF	Fish bioaccumulation factor (L/kg)	40	11
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	NA
Other Parameters			
F <sub>w</sub>	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	3.2E-02	13
RfD	Reference Dose (mg/kg/day)	NA	NA
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	NA	NA
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA

## Dibenz(a,h)anthracene

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	3.8E+06	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	4.9E+06	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	2.7E-01	8
K <sub>d<sub>s</sub></sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
K <sub>d<sub>bs</sub></sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
K <sub>d<sub>sw</sub></sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm·m <sup>3</sup> /mol)	5.4E-08	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	2.0E-02	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	8.0E-06	7
VP	Vapor pressure at approximately 25 °C (atm)	1.3E-13	6
S	Solubility (mg/L or g/m <sup>3</sup> )	6.7E-04	6
MW	Molecular weight (g/mol)	278.33	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	3.4E+07	13
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg WW plant)/(μg/ml soil water; bcf-leafy veg (μg /g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	4.3E+03 5.3E-03 5.3E-03	9
B <sub>a<sub>beef</sub></sub>	Biotransfer factor for beef (day/kg)	NA	NA
B <sub>a<sub>milk</sub></sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	11
BAF	Fish bioaccumulation factor (L/kg)	1,000	11
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	NA
Other Parameters			
F <sub>w</sub>	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	8.1E+00	13
RfD	Reference Dose (mg/kg/day)	NA	NA
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	NA	NA
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA

### Dimethylbenz(a)anthracene, 7,12-

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	2.9E+06	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	3.8E+06	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	9.0E+00	8
K <sub>d<sub>s</sub></sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
K <sub>d<sub>bs</sub></sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
K <sub>d<sub>sw</sub></sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm·m <sup>3</sup> /mol)	1.9E-08	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	8.0E-02	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	8.0E-06	7
VP	Vapor pressure at approximately 25 °C (atm)	3.8E-12	6
S	Solubility (mg/L or g/m <sup>3</sup> )	5.0E-02	6
MW	Molecular weight (g/mol)	256.35	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	7.3E+07	13
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg/g WW plant)/(μg/ml soil water; bcf-leafy veg (μg/g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	3.5E+03 6.1E-03 6.1E-03	9
B <sub>a<sub>beef</sub></sub>	Biotransfer factor for beef (day/kg)	NA	NA
B <sub>a<sub>milk</sub></sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	11
BAF	Fish bioaccumulation factor (L/kg)	1,000	11
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	NA
Other Parameters			
F <sub>w</sub>	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	2.5E+01	13
RfD	Reference Dose (mg/kg/day)	NA	NA
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	NA	NA
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA



## Indeno(1,2,3-cd)pyrene

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	4.0E+06	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	5.2E+06	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	3.5E-01	8
K <sub>d<sub>s</sub></sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
K <sub>d<sub>bs</sub></sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
K <sub>d<sub>sw</sub></sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm·m <sup>3</sup> /mol)	3.4E-09	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	1.9E-02	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	8.0E-06	8
VP	Vapor pressure at approximately 25 °C (atm)	1.3E-13	6
S	Solubility (mg/L or g/m <sup>3</sup> )	1.07E-02	6
MW	Molecular weight (g/mol)	276.34	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	5.3E+04	14
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg/g WW plant)/(μg/ml soil water; bcf-leafy veg (μg/g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	4.5E+03 5.1E-03 5.1E-03	9
B <sub>a<sub>beef</sub></sub>	Biotransfer factor for beef (day/kg)	NA	NA
B <sub>a<sub>milk</sub></sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	11
BAF	Fish bioaccumulation factor (L/kg)	1,000	11
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	NA
Other Parameters			
F <sub>w</sub>	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	4.0E-01	13
RfD	Reference Dose (mg/kg/day)	NA	NA
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	NA	NA
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA

### Methylcholanthrene, 3-

Parameter	Definition	Value	Ref
Chemical/Physical Properties			
K <sub>oc</sub>	Organic carbon partition coefficient (mL/g)	2.0E+06	1
K <sub>ow</sub>	Octanol water partition coefficient (unitless)	2.6E+06	2
k <sub>sg</sub>	Soil loss constant due to degradation (1/yr)	1.8E-01	8
K <sub>d<sub>s</sub></sub>	Soil-water partition coefficient (mL/g or L/kg)	varies	3
K <sub>d<sub>bs</sub></sub>	Bottom sediment-sediment pore water partition coefficient (L/kg)	varies	4
K <sub>d<sub>sw</sub></sub>	Suspended sediment-surface water partition coefficient (L/kg)	varies	5
H	Henry's Law constant (atm·m <sup>3</sup> /mol)	1.4E-06	6
D <sub>a</sub>	Diffusivity in air (cm <sup>2</sup> /sec)	8.0E-02	7
D <sub>w</sub>	Diffusivity in water (cm <sup>2</sup> /sec)	8.0E-06	7
VP	Vapor pressure at approximately 25 °C (atm)	1.0E-11	6
S	Solubility (mg/L or g/m <sup>3</sup> )	1.9E-03	6
MW	Molecular weight (g/mol)	268.40	6
Transfer Factors			
B <sub>v</sub>	Air-to-plant biotransfer factor ([μg pollutant/g plant tissue DW]/[μg pollutant/g air])	6.7E+05	13
Br	Soil-to-plant biotransfer factor : rcf-root veg (μg WW plant)/(μg/ml soil water; bcf-leafy veg (μg /g DW plant)/(μg/g soil); bcf-forage (μg/g DW plant)/(μg/g soil)	2.7E+03 7.5E-03 7.5E-03	9
B <sub>a<sub>beef</sub></sub>	Biotransfer factor for beef (day/kg)	NA	NA
B <sub>a<sub>milk</sub></sub>	Biotransfer factor for milk (day/kg)	NA	NA
BCF	Fish bioconcentration factor (L/kg)	NA	11
BAF	Fish bioaccumulation factor (L/kg)	1,000	11
BSAF	Fish biota to sediment accumulation factor (unitless)	NA	NA
Other Parameters			
F <sub>w</sub>	Fraction of wet deposition that adheres to plant surfaces (dimensionless)	0.6	12
Health Benchmarks			
CSF	Cancer Slope Factor (per mg/kg/day)	2.6E+01	13
RfD	Reference Dose (mg/kg/day)	NA	16
URF	Unit Risk Factor (per μg/m <sup>3</sup> )	NA	NA
RfC	Reference Concentration (mg/m <sup>3</sup> )	NA	NA

1.  $K_{oc}$  is calculated from  $K_{ow}$  using a correlation equation from Research Triangle Institute. 1992. *Preliminary Soil Action Level for Superfund Sites, Draft Interim Report*. Prepared for U.S. EPA Hazardous Site Control Division, Remedial Operations Guidance Branch, Arlington, VA. EPA Contract 68-W1-0021, Work Assignment No. B-03, Work Assignment Manager Loren Henning. December.

$$K_{oc} = 0.88 K_{ow} - 0.114 \quad (r^2 = 0.96)$$

where

$K_{ow}$  = octanol water partition coefficient (unitless) - (see table A1-2)

2. U.S. EPA 1995. Internal Report on Summary of Measured, Calculated and Recommended Log  $K_{ow}$  Values. Prepared for Office of Water by Environmental Research Laboratory, Athens, GA. April 10, 1995.
3. Research Triangle Institute. 1992. *Preliminary Soil Action Level for Superfund Sites, Draft Interim Report*. Prepared for U.S. EPA Hazardous Site Control Division, Remedial Operations Guidance Branch, Arlington, VA. EPA Contract 68-W1-0021, Work Assignment No. B-03, Work Assignment Manager Loren Henning. December.
4. Calculated from  $Kd_s$  and scaled to reflect the different fraction organic carbon in bottom sediment.

$$Kd_{bs} = Kd_s \cdot \frac{f_{oc,bs}}{f_{oc,s}}$$

where:

$Kd_{bs}$  = bottom sediment-water partition coefficient (mL/g)

$Kd_s$  = organic carbon partition coefficient (mL/g) - calculated, see below

$f_{oc,bs}$  = fraction organic carbon in bottom sediment = 0.04 (*Addendum*)

$f_{oc,s}$  = fraction organic carbon in soil = 0.01 (*Addendum*)

5. Calculated from  $Kd_s$  and scaled to reflect the different fraction organic carbon in suspended sediment.

$$Kd_{sw} = Kd_s \cdot \frac{f_{oc,sw}}{f_{oc,s}}$$

where:

$Kd_{sw}$  = suspended sediment-water partition coefficient (mL/g)

$Kd_s$  = organic carbon partition coefficient (mL/g) - calculated, see below

$f_{oc,sw}$  = fraction organic carbon in suspended sediment = 0.075 (*Addendum*)

$f_{oc,s}$  = fraction organic carbon in soil = 0.01 (*Addendum*)

6. U.S. Environmental Protection Agency. 1996. Superfund Chemical Data Matrix. EPA/540/R-96/028, PB96-963509. Office of Emergency and Remedial Response, Washington, DC.
7. U.S. EPA. 1995. Hazardous Waste Treatment, Storage, and Disposal Facilities (TS<sub>deg</sub>F) - Wasterwater Treatment Air Emission Models, WATER8. Office of Air Quality Planning and Standards, Research Triangle Park, N.C. February.
8. Howard, P.H., R.S. Boethling, W.M. Jarvis, W.M. Meylan, and E.M. Michalenko. 1991. *Handbook of Environmental Degradation Rates*. Lewis Publishers. Chelsea, Michigan.
9. Calculated from an equation in Briggs, G.G., R.H. Bromilow, and A.A. Evans. 1982. Relationships between Lipophilicty and Root Uptake and Translocation of Non-ionized Chemicals by Barley. *Pesticide Science*. 13:495-504.

$$\log(RCF - 0.82) = 0.77 \log K_{ow} - 1.52$$

where

RCF = ratio of concentration in the roots to concentration in soil pore water ([ $\mu\text{g/g}$  plant]/[ $\mu\text{g/mL}$  pore water])

K<sub>ow</sub> = octanol water partition coefficient (unitless) - (see table A1-2)

where

Ba<sub>milk</sub> = biotransfer factor for milk (day/kg)

K<sub>ow</sub> = octanol water partition coefficient (unitless) - (see table A1-2)

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